

ABSTRACT

A highly reliable semiconductor device having a multilayer structure including an insulating film, an adjacent conductive film, and a main conductive film in which adhesive fractures, voids and disconnections are unlikely to occur.

Regarding main constituent elements of the adjacent conductive film and the main conductive film, lattice mismatching is made small, the melting point the adjacent conductive film is set to be not less than 1.4 times that of the main constituent element of the main conductive film, the adjacent conductive film contains at least one different kind of element, the difference between the atomic radius of an added element and that the atomic radius the adjacent conductive film is set to be not more than 10%, and/or bond energy between the added element and silicon (Si) is not less than 1.9 times that of the main constituent element of the adjacent conductive film and silicon (Si).